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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/779,454 | 02/13/2004 | Juergen Dickmann | 3926.063 | 8976 |

30448 7590 06/15/2006

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| EXAMINER |
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STRIMBU, GREGORY J

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| ART UNIT | PAPER NUMBER |
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3634

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Information Disclosure Statement

The information disclosure statement filed September 29, 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the German Patent Publication No. DE 41 19 579 A1 referred to therein has not been considered.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the additional non-planar mirror must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after

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the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "2" has been used to designate both a housing in figure 1 and a laser light source in figure 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because the superfluous lettering such as "S1<S2=>Signal" should be deleted. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as

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"amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it is not a single paragraph; recitations such as "[t]he invention concerns" on line 1 of paragraph 33 can be easily

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implied and therefore should be deleted; the legal phraseology "means" on lines 2, 4 and 5 of paragraph 34 should be avoided. Correction is required. See MPEP § 608.01(b).

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected to because of the following informalities: recitations such as “difined” on line 6 of paragraph 2 and “precharacterizing” on line 3 of paragraph 5 appeared to be misspelled; references to the claims such as “patent Claim 1” on line 3 of paragraph 5, “Patent Claim 1” on line 2 of paragraph 6 and “dependent claims” on line 2 of paragraph 7 should be deleted; it appears that “2” on lines 11, 12 and 16 of paragraph 29 should be changed to --3--. Finally, the applicant should avoid referring to the same element of the invention with different language. For example, the applicant should avoid referring to element 5 as “a circuit board” on line 6 of paragraph 27 and as “the photo detector” on line 17 of paragraph 27. Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 1-18, as best understood by the examiner, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are replete with numerous 35 USC 112 errors. Accordingly, the examiner has provided examples of the numerous 35 USC 112 errors below so that the applicant can review the examples and effect changes throughout the claims.

Recitations such as “means sensing in the door swing area” on line 3 of claim 1 render the claims indefinite because it is unclear what the applicant is attempting to set forth. Is the applicant setting forth the function of the means so as to invoke 35 USC 112 6th paragraph or is the applicant setting forth the sensor means is sensing in the door swing area. Recitations such as “or” on line 5 of claim 1 render the claims

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indefinite because it is unclear which one of the two non-equivalent alternatives the applicant is positively setting forth. Recitations such as "the monitoring area" on line 6 of claim 1 render the claims indefinite because they lack antecedent basis. Recitations such as "a pivotable light beam" on line 9 of claim 1 render the claims indefinite because it is unclear what the applicant is attempting to set forth. Is the applicant setting forth that the monitoring device pivots the light beam or is the applicant merely setting forth that the light beam can be pivoted subsequent to its exit from the monitoring device. Pronouns such as "it's [sic]" on line 3 of claim 2 should be avoided. Recitations such as "the additional non-planar mirror" on line 3 of claim 3 render the claims indefinite because they lack antecedent basis. Recitations such as "preferably" on line 4 of claim 4 render the claims indefinite because the applicant is setting forth a broad range followed by a narrow range. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd.

App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, recitations such as “mounted to be pivotable” on lines 3-4 of claim 4 recites the broad recitation and recitations such as “micro-mechanically drive” on line 4 of claim 4 which is the narrower statement of the range/limitation. Recitations such as “for detecting the two-dimensional monitoring area” on lines 5-6 of claim 5 should be changed to agree with the language first used to refer to the element of the invention. See lines 10-11 of claim 1. Recitations such as “an external mirror which is attached to the vehicle door” on lines 6-7 of claim 5 render the claims indefinite because it is unclear if the applicant is setting forth the subcombination of a monitoring device or the combination of a monitoring device and a vehicle. The preamble of claim 1 implies the former while the positive recitation of the vehicle on lines 6-7 of claim 5 implies the former. Recitations such as “and/or” on line 6 of claim 8 render the claims indefinite because it is unclear what is meant by the recitation “/”. Is the applicant setting forth “and” only, “or” only, “and” and “or”, or “and” or “or”? Recitations such as “is so designed” on lines 3-4 of claim 10 render the claims indefinite because it is unclear if the control unit actually adjusts the output of the light source or is merely intended to do so. Recitations such as “a pivoting” on line 3 of claim 12 render the claims indefinite because it is unclear what element of the invention is pivoting. Recitations such as “TS” on line 4 of claim 12 should be enclosed in parentheses since they are reference characters. Recitations such as “two pivot processes” on lines 3-4 of claim 13 render the claims indefinite because it is unclear what the applicant is attempting to set forth. What comprises a “pivot process”? Recitations such as “each n-ten pivot process with

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n being less than 10" on line 6 of claim 14 render the claims indefinite because it is unclear what the applicant is attempting to set forth. Recitations such as "that the distance . . . of the vehicle door" on lines 6-9 of claim 15 render the claims indefinite because it is unclear how the distance of the monitoring area from the vehicle door can vary when the monitoring device is mounted on the vehicle door. Recitations such as "means" on line 7 of claim 16 render the claims indefinite because it is unclear if the applicant has attempted to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding or following "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 8 and 15, as best understood by the examiner, are rejected under 35 U.S.C. 102(b) as being anticipated by Haas et al. Haas et al., in figure 4, discloses a door space monitoring device for monitoring a door swing area of a vehicle door, with sensor means sensing in the door swing area, with a sensor-data evaluating evaluation unit 38 and with a control unit 39 for controlling the sensor means or evaluation unit,

where the monitoring area sensed by the sensor means is substantially two-dimensional, that the sensor means includes at least one light source 20 for emission of a pivotable light beam, at least one micro-mirror unit 14 and at least one photo-detector 45 for monitoring the two-dimensional monitoring area.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2, as best understood by the examiner, is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas et al. as applied to claims 1, 7, 8 and 15 above, and further in view of Hosoe et al. Hosoe et al. discloses a non-planar mirror 2a as shown in figure 5.

It would have been obvious to one of ordinary skill in the art to provide the light source of Haas et al. with a non-planar mirror, as taught by Hosoe et al., to increase the intensity of the light beam.

Claims 1, 5 and 6, as best understood by the examiner, are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochida et al. in view of Haas et al. Mochida et al. discloses a detection system provided in an external mirror, the mirror is provided

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in the "area" of the pivot axis of the vehicle door. Mochida et al. is silent concerning a light based detection system.

However, Haas et al., in figure 4, discloses a door space monitoring device for monitoring a door swing area of a vehicle door, with sensor means sensing in the door swing area, with a sensor-data evaluating evaluation unit 38 and with a control unit 39 for controlling the sensor means or evaluation unit, where the monitoring area sensed by the sensor means is substantially two-dimensional, that the sensor means includes at least one light source 20 for emission of a pivotable light beam, at least one micro-mirror unit 14 and at least one photo-detector 45 for monitoring the two-dimensional monitoring area.

It would have been obvious to one of ordinary skill in the art to provide Mochida et al. with a detection system, as taught by Haas et al., to increase the sensitivity of the detection system.

Claim 9, as best understood by the examiner, is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas et al., as applied to claims 1, 7, 8 and 15 above, and further in view of Underwood. Underwood discloses a PIN diode photo detector 26.

It would have been obvious to one of ordinary skill in the art to provide Haas et al. with a PIN diode, as taught by Underwood, to increase the sensitivity of the monitoring device.

Claims 11-14, as best understood by the examiner, are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas et al. as applied to claims 1, 7, 8 and 15 above, and further in view of Isogai et al. Isogai et al. discloses a space monitoring device comprising a pivotable mirror 15 which pivots at regular intervals (see paragraph 56, lines 1-5). Because the light source and the mirror are operated simultaneously, the light source is activated only during the pivot process.

It would have been obvious to one of ordinary skill in the art to provide Haas et al. with a drive system, as taught by Isogai et al., to increase the area in which the sensor can detect an object.

With respect to claims 12 and 13, one of ordinary skill in the art is expected to routinely experiment with parameters so as to ascertain the optimum or workable ranges for a particular use. Accordingly, it would have been no more than an obvious matter of engineering design choice, as determined through routine experimentation and optimization, for one of ordinary skill to provide the pivot range with a time span of less than 5ms and with a time span of greater than 25ms and less than 50ms.

Claims 16-18, as best understood by the examiner, are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas et al. as applied to claims 1, 7, 8 and 15 above, and further in view of Isogai et al. Isogai et al. discloses the use of a phase delay process for distance measurement (see paragraph 60, lines 1-3) and an alarm (see paragraph 49, line 9).

It would have been obvious to one of ordinary skill in the art to provide Haas et al. with a phase delay process and alarm, as taught by Isogai et al., to increase the accuracy of the distance measurement and to enable to easily recognize when an object has been detected, respectively.

Allowable Subject Matter

Claims 3, 4 and 10, as best understood by the examiner, would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, absent applicant's own disclosure, fails to teach the entire combination of elements set forth in the claimed invention. Specifically, the prior art of record fails to teach an additional non-planar mirror shaped such that its contour corresponds to the contour of the vehicle door (see claim 3). The prior art of record also fails to disclose an additional non-planar mirror mounted micro-mechanically pivotable (see claim 4). Finally, the prior art of record fails to teach the control unit which adjusts the light output of the light source according to the degree of pivoting of the micro-mechanical mirror (see claim 10).

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wangler et al., LaPolice, Sicuranza, and Busse are cited for disclosing a detection system for a vehicle/vehicle door.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory J. Strimbu whose telephone number is 571-272-6836. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on 571-272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Gregory J. Strimbu
Primary Examiner
Art Unit 3634
June 8, 2006